

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph starting on page 1, line 14 as follows:

B₁ According to the invention, the gripper consists of ~~the characteristics according to claim 1~~
a modular structure, which consists of a central profile section core whose dimension is fitted to the
size of the piece to be transported, and of profile sections fitted in order to be affixed perpendicularly
onto this central core, mechanisms for affixing these profile sections at the selected location, ball and
socket bearings mounted at the ends of these profile sections, air chokes that are affixed to the ends
of the ball joints and ball joints that enable an angular clearance of the air chokes.

Please replace the paragraph starting on page 1, line 22, by the following two paragraphs:

B₂ According to the invention, the gripper may also consists of the following characteristics ~~of~~
~~the claims 2 to 12.~~ The central core may be profiled in such a way so as to make it possible to
laterally clamp suction pipes for the air chokes. The mechanisms for affixing the profile sections to
the central core may consist, for each profile section, of an angle bracket and a small plate that allow
the profile sections to become affixed to any position of the central core. Each air choke may be
supported by a ball joint mounted in a ball and socket bearing, giving the assembly a specified
clearance, for example, of 22 degrees, thus making it possible to transport pieces having awkward
shapes. The air choke may be supported by a combined ball joint mounted in a ball and socket
bearing, giving the assembly an angular clearance of 30 degrees, and having different lengths that

serve as the extension pieces. The air choke may be supported by a piece in the shape of a ball joint whose axis is mounted with a spring, and which is mounted in a ball and socket bearing, giving the assembly an angular clearance of 22 degrees.

B₂ Further, the gripper may comprise a ball and socket bearing fitted in order to mount the ball joints there and of ball joints that are fitted with springs as well as combined ball joints, thus making possible an angular clearance of approximately + 22 degrees in the two first cases, and of 30 degrees in the last case, where their attachment onto the corresponding profile section makes it possible to make the assembly slide until the desired position along the profile section, or extension pieces and combined ball joints that make it possible for the air chokes to be able to suction by vacuum the pieces whose shapes or differences in height are sizeable. The gripper may comprise sloped shims that make it possible to increase the angle by 15 degrees in one case and 35 degrees in a second case. The gripper may be fitted in order to be affixed onto a robot or on a mechanized system by means of a manual interface, in order to allow an effective clamping of the gripper with a large amount of rigidity, or it may be adapted in order to be affixed onto a robot or on a mechanized system by automatic interfaces with a large amount of clamping rigidity. The gripper may be mounted onto a crosspiece that is itself mounted either onto a robot or onto a mechanized system, and that accommodates three interfaces that make it possible to mount a gripper to the center for small pieces to be transported, or to each end for the pieces that have large dimensions.

Please amend the paragraphs from page 2, line 16, to page 3, line 21, as follows:

Figure 14 and 15 are perspective views is a perspective view of the manual interfaces interface between the gripper and a robot or mechanized system (not shown).

Figure 16 15 is a sectional front view of a ball joint fitted with a spring, of its air choke and its bearing.

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Figure 17 16 is a front view of a flat angle mounting bracket.

Figure 18 17 is a transverse section view of a profile section core of the gripper.

Figure 19 18 is a perspective and partial section view of the profile section core, of a ball and socket bearing, of a ball joint fitted with a spring, and the associated air choke.

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Figure 20 19 is view similar to Figure 19 according to another embodiment form of the ball joint.

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Figure 21 20 is a front view similar to Figure 20 showing another embodiment variation.

Figure 22 is a perspective view of a manual interface between the gripper and a robot.

Figures 23 to 25 21 to 23 are perspective views of automatic interfaces between the modular gripper according to the invention and a robot or an automated system (not shown).

Figure 26 24 is a perspective view of a crosspiece equipped with three interfaces with grippers according to the invention.

Figure 27 25 is a front view of a ball joint combined with an extension piece.

Figures 28 and 29 26 and 27 show plates for arms bent at an angle vertically.

Figure 30 28 is a perspective view in a reduced scale of a gripper equipped with plates of Figures 28 and 29 26 and 27.

Figures ~~31 and 32~~ 29 and 30 show plates for arms bent at angle horizontally.

Figure ~~33~~ 31 is a perspective view in a reduced scale of a gripper equipped with plates of Figures ~~28 and 29~~ 26 and 27.

B₃
The gripper shown in the drawings is made of a modular structure, which consists of a central profile section core (~~Fig. 2~~ Figs. 2 or 3) whose dimensions are fitted to the size of the piece to be transported, and of a profile section (Fig. 4) fitted in order to be attached perpendicularly onto this central core.

Two lateral grooves ~~10, 20~~ 50, 60 of the profile section of Figure 4 make it possible to clamp there, on each side, a pipe, for example, of the size 5.5 x 8. The same possibility exists for opposed lateral grooves 30, 40 and ~~50, 60~~ 10, 20 of the profile sections of Figures 2 and 3, whose geometry can be modified approximately in order to allow the grooves 30, 40 ~~50, 60~~ 10, 20 to clamp 5.5 x 8 pipes there from two sides.
